Comments

L-0044/127

Treatment of hazardous components of TRU waste is not addressed. Ecology notes that the USDOE acknowledged hazardous components in TRU waste streams but does not address treatment of those components. In addition, the means by which RH and nonstandard TRU packages would be processed is not developed. The USDOE asserts that non-standard TRU processing will begin in 2015 and RH [remote handled] processing will begin in 2013, but no attempt is made to explain how the USDOE will establish methods to accomplish such processing.

Response

Treatment technologies are identified in the text boxes in Volume I Section 2. The same technologies would be used in either a modified T Plant or a new waste processing facility. General technologies have also been identified for each of the waste streams in Volume I Section 2.1. Final selection of specific technologies will need to wait until detailed design of the facilities.

The 1996 amendments to the WIPP Land Withdrawal Act exempted TRU mixed waste designated for disposal at WIPP from specific treatment standards and land disposal prohibitions of hazardous waste laws. Based on experience with TRU waste now being sent to WIPP (contact handled, mixed and non-mixed), it is anticipated that most TRU and TRU mixed waste would meet WIPP waste acceptance criteria without the need for substantial additional processing. Permitting of TRU waste disposal at WIPP is discussed in Volume I Section 2.1.3. Processing and certification of TRU to meet WIPP waste acceptance criteria is discussed in Volume I Section 2.2.2.

Comments

L-0055/029

Hanford DOE has limited capacity to treat MLLW at Hanford. Will the contractors be able to treat the MLLW and LLW that will be arriving at Hanford since they can only treat a limited quantity? If not, how will the MLLW be stored at Hanford before treatment to assure its stability? Or will it be treated before arriving at Hanford?

Response

Part of the purpose of the EIS is to allow DOE to obtain additional treatment capability to support cleanup of the Hanford Site. LLW and MLLW received from offsite generators is assumed to meet applicable treatment standards and arrives ready for disposal.

Comments

TSP-0015/003

Another thing is that to look into the microbes, the bugs that actually eat plutonium waste, medical waste, mixed waste. They started out eating chemical waste, and now they have been evolved by the government to actually eat radioactive waste. And this could clear up a lot of mess if we could get that going.

Response

Evaluation of the use of microbes as a process to treat radioactive waste is still in the research and development stages. Should alternative treatment technologies, such as this, become available in the future they would be addressed in subsequent environmental evaluations.

The treatment of MLLW at Hanford is discussed in Volume I Section 2.1.2 of the HSW EIS.

Comments

L-0055/030

Category 3 LLW requires grouting waste in the trench or placing it in high-integrity containers. What is the half life of this category 3 waste? Grout does not have a half life that is likely to last several thousand years. If this waste is harmful enough to require grouting, then vitrification should also be considered.

Response

The analyses in the HSW EIS assume that the in-trench grouting and the high-integrity containers would provide additional protection of radioactive constituents for 300 years. See Volume II Appendix G.1.

Comments

THR-0002/005

And in this EIS DOE wants to dump low-level, mixed and the low-activity tank waste all together. That's one of the options, the alternatives. And although basically this would mix very different radioactive and chemical wastes all together in the same burial ground, which can cause reactions and different deteriorations of the liners.

THR-0006/001

I think the idea of mixing all the wastes together is a bad idea, dumping it all together. That is not going to let you clean it up later, which is what's going to have to happen.

TSE-0031/005

It [the DEIS] does not include nonreactive hazardous wastes.

Response

Mixed low-level waste is required to meet land disposal restriction (LDR) treatment standards prior to disposal and it will be treated as necessary. The treatment process is designed, in part, to preclude waste interactions. Disposal of low-level waste and mixed low-level waste together in the same lined disposal facility is a safe, legally compliant practice already used onsite at the Environmental Restoration Disposal Facility.

Comments

TPO-0011/001

The low-level mix that is now mixed with chemical waste, apparently this statement has not addressed that properly, and that they do not know how the chemicals will mix with the low-level waste. I've heard of -- so that they don't know how it will mix, so therefore, they don't know what could happen. And they're completely ignoring this, apparently, in this statement. The other thing, one of the other things that concerned me, was the fact that -- well, part of this chemical mix includes the solvents that allow plutonium to travel more easily.

Response

Mixed low-level waste is required to meet land disposal restriction (LDR) treatment standards prior to disposal and it will be treated as necessary. The treatment process is designed, in part, to preclude waste interactions. Disposal of low-level waste and mixed low-level waste together in the same lined disposal facility is a safe, legally compliant practice already used onsite at the Environmental Restoration Disposal Facility.

As indicated in Volume I Section 5.3, existing groundwater monitoring data does not indicate that releases from the LLBGs have occurred. As indicated in Volume I Section 4.5.3.3, the carbon tetrachloride in the groundwater under Low-Level Waste Management Area 4 is from an upgradient source. Groundwater

impacts from Low-Level Waste Management Areas 1, 2, 3, and 4 are discussed in the Hanford Site-Groundwater Monitoring for Fiscal Year 2001 document (Hartman et al. 2002). Groundwater contamination beneath the Hanford Site is being studied and remediated by the ongoing CERCLA program in accordance with the Tri-Party Agreement. See Volume II Appendix N, Section N.2.4.

Sampling being conducted as part of the ongoing CERCLA program in the LLW Management Area 4 has indicated the presence of carbon tetrachloride vapors in and near several trenches. During the trench sampling, industrial hygienists conducted repeated air monitoring at the top of the vent risers above trenches—a required health and safety practice for all sampling activities to protect the workers from potentially being exposed during the sampling. After the carbon tetrachloride had been detected in the air at the bottom of the trench, industrial hygienists again monitored the trench to ensure that other workers who entered this area in the burial ground would not be exposed. The measurements for all "organics" in the air above the trench (including carbon tetrachloride and its decay products) showed readings ranging from "not detectable" to 4 ppm—well below the standard set by the Occupational Safety and Health Administration (OSHA) of 10 ppm per day during a 40-hour work week. Samples taken in the "breathing zone" did not show any level of organics. The monitoring at the surface of the trenches indicated that toxic vapors were not emanating from the vent risers. Monitoring above and below the surface continues. Based on monitoring results and activities to be performed, industrial hygienists specify protective measures to be taken to protect workers. Common measures might include protective clothing, respiratory protection, and removal of contaminants from the work area.

Additional sampling for organic compounds, including carbon tetrachloride, in the Low Level Burial Grounds is being conducted as part of the on-going TRU waste retrieval activities. This sampling started October 15, 2003 and is being conducted in accordance with a State of Washington Department of Ecology approved Sampling and Analysis Plan (SAP). Sampling results will be used both for helping reduce risks during retrieval and to provide information for remediation planning.

In response to carbon tetrachloride vapors found in previous vent riser sampling in trench 4 of LLBG 218-W-4C, a vapor extraction system has been installed and started operation November 15, 2003. This system is currently intended to operate until the carbon tetrachloride concentrations are less than or equal to 10 ppmv. This work is being conducted prior to retrieval in order to reduce the likelihood that higher levels of carbon tetrachloride will be encountered during retrieval that could pose a higher risk to workers and slow progress on retrieval.

Retrieval of the suspect transuranic waste from this burial ground has already started and is anticipated to be complete within the next few years, with Trench 4 retrieval completed by the end of 2006. If the retrievably stored waste is the source of the carbon tetrachloride vapors, the completion of this retrieval will eliminate the source of contamination. Additional sampling results from the SAP sampling after the removal of the retrievably stored waste will provide information to assist in determining appropriate actions after the waste is removed.